

## **Bed Bug Outreach Efforts for 2014**

### **Project Leader(s):**

Lynn Braband, Matthew Frye, Jody Gangloff-Kaufmann

### **Cooperator(s):**

Bryan Matthews, Laurie Lutzker, Nassau County Dept of Health; Rene Fiechter, Maria Ploth, Nassau County District Attorney's office; members of the Nassau County Bed Bug Task Force (60+ members); Ronald Gardner, PMEP.

### **Abstract:**

Bed bugs are small blood-feeding insects that invade human habitats, specifically homes, and thrive in places where people sleep. Over a span of about 15 years, bed bugs have become endemic in the United States. They affect people throughout the country, regardless of income or housing type, but disproportionately affect those who cannot afford adequate treatments and those who live in multi-unit housing.

Over the past few years the scientific understanding of bed bugs has improved greatly. Likewise, the basic familiarity of people with bed bugs has improved, as indicated by industry data that places New York City at #10, down from #7 in the numbers of bed bug treatments (Orkin, 2014). This suggests that outreach from programs like the New York State IPM Program is effective. In 2010 significant attention was given to bed bugs in the news, which also helped to increase the public's familiarity with this pest. IPM staff members have been featured in news articles and other media. However, the need for education about avoiding and eliminating bed bugs is still high. This includes outreach to cooperative extension educators, Master Gardener Volunteers, pest control professionals, facilities managers, social workers, medical professionals, travelers, college students and their families, landlords, tenants of rented properties, and just about everyone else. The people most vulnerable to bed bug infestations are those in multiple unit buildings, the elderly (often living alone), and those living in assisted or group homes. It is believed that elderly, disabled and disadvantaged individuals are more commonly living with bed bugs, because they may have fewer resources, no control over pest management decisions, and may even lack the capacity to recognize or deal with bed bugs on their own.

The New York State IPM Program has approached the bed bug issue from a variety of angles for over 13 years. Staff members are frequently called upon to help individuals, organizations and agencies deal with bed bugs in homes, facilities, and schools. Through phone calls, presentations, sample identification, development of educational materials and other outreach, the NYS IPM Program continues to raise public awareness about this pest and low-risk methods of controlling bed bugs. In a broad effort to provide outreach to cooperative extension educators and other trainers, a bed bug webpage is maintained on the NYS IPM program website and various new educational and instructional materials are available. Many training sessions were held in 2014, reaching audiences such as social workers, housing staff and medical service providers. Direct inquiries to IPM staff from the public dropped off in 2014, as well as field visits to sites to investigate and advise on bed bug activity.

**Background and justification:**

Bed bugs, *Cimex lectularius*, are blood-feeding parasites of humans and some animals. Bed bugs cannot fly or jump, but they can move fast, spread easily, and they are excellent at remaining undetected in the human environment. These insects, once commonplace in homes and hotels, nearly disappeared from developed countries by the 1950's due to the use of residual insecticides. A resurgence of bed bugs became evident in the late 1990's, and since this time bed bugs have affected all parts of the United States. Over the past ten years there has been an expansion of research and outreach from various sources, including Cornell University.

Throughout the United States people are facing bed bug infestations in their homes, dormitories, hotels, and other types of housing and accommodations. According to a survey of the pest control industry conducted in 2005, the resurgence of bed bugs has been consistent across the US (Gangloff-Kaufmann et al. 2006). By 2010, over 95% of pest management companies in the United States responding to a survey reported that they had done some bed bug work (Potter, et al, 2010). Although bed bugs are not vectors of disease, they do pose significant health effects for sufferers. Bed bugs cause high levels of anxiety, stress, and loss of sleep when they infest the home. While reactions to bites vary among individuals, bites often result in itchy welts that may lead to secondary infections from scratching. Anemia has been reported for the elderly in heavy infestations. Bed bugs have also been identified as an asthma trigger. However, the overexposure to pesticides, especially from self-treatment, may still be a greatly underestimated public health risk.

Extension programs in many states have responded with fact sheets, new research programs, and educational opportunities. In addition, health departments and municipal agencies in a few cities have taken steps to help their citizens with bed bug problems. Still the problem appears to have worsened over the past few years. Complaints to the New York City help line, 311, have increased from about 540 in 2004 to more than 8800 by the first half of 2008. Field collected bed bugs from various parts of the US are known to be resistant to commonly used pyrethroids (Romero et al. 2007). Although bed bugs are not currently known to vector disease, their public health impact can be seen in the numbers of bites victims suffer, the emotional stress of fighting them, the financial strain placed on families and people when money is tight, and the potential for pesticide overuse. Even with the improved level of communication among pest control professionals and university researchers, and increased awareness and skill level, bed bugs continue to be among the most frequent and challenging pests to deal with. This project addresses the needs of the pest control industry, municipal agencies, and the general public for help with bed bug problems. In particular, focusing on non-traditional audiences, such as medical and social service providers, may have a significant impact on the protection of human health while indirectly benefitting others.

**Objectives:**

- Raise awareness about bed bugs and effective management practices;
- Increase the adoption of successful management tools for bed bugs;

- Reduce the overall risk to New Yorkers from bed bugs and the tools used to manage them.

### **Activities:**

The Nassau County Bed Bug Task Force continued to meet on a monthly basis in 2014, addressing the concerns brought to the table by various stakeholders. The Task Force hosted a regional workshops in March geared toward general audiences, including medical providers, social workers, municipal agencies, hospital administrators, pest managers, college property managers and other public/private housing managers. An additional five workshops were held for staff of the Nassau County Department of Social Services. Workshop topics addressed the specific issues found in housing and the workplace as well as bed bug introductions to classrooms. The Task Force workshop was advertised throughout Long Island, NYC and into the Hudson Valley. There were around 40 participants, a significant drop in participation from previous years. Workshops held for Nassau County DSS had a total audience of 220 people, who received bed bug awareness training.

Three online courses were developed in 2013 and 2014 for Moodle software to train pest management professionals to properly inspect, identify, manage and treat bed bug infestations. These three courses are offered through the Pesticide Management Education Program for DEC pesticide certification credits. Part one focuses on bed bug biology, ecology and behaviors as they relate to inspection and control. Part two teaches the user how to conduct a thorough inspection in both homes and school classrooms. In Part three, best management practices are described, including what pesticides to use, which to avoid and how to manage bed bugs safely. All courses focus on the use of IPM and describe the problems with relying solely on pesticides for bed bug control. These courses were completed a total of 28 times, representing 24.5 DEC pesticide applicator credits earned in Categories 7a, 8, and 10.

NYSIPM educators were called out to visit the Sharpe Reservation campground (Fishkill, NY) in November 2014 to advise on recurring bed bug activity. This camp serves the Fresh Air Fund, a non-profit organization that serves disadvantaged children from New York City by providing summer camp experiences and outdoor education. There are several areas with rustic cabins on the campus. Over the past five or more years bed bugs have become a persistent issue. Bed bugs are likely introduced to cabins by campers, and turnover is extremely high during the peak of summer camp. We reviewed their awareness materials, protocols, and parental information and plan to develop resources specific for sleep-away camp settings. We toured several areas with cabins and looked at bed bug evidence. Recommendations for bed bug proofing was provided to the camp director and her staff. We plan to make a follow up visit in the spring of 2015 to conduct an in-service for their incoming summer camp staff. We will teach the basics of recognizing bed bugs and some techniques for minimizing risks of infestation and transfer.

### **Results and discussion:**

Over the past few years there has been a noticeable reduction in bed bug complaints, both in CCE offices in NY, hotlines such as 311 (NYC) and the pest management industry. Anecdotes

from industry suggest that infestations are smaller and easier to eradicate than years ago. One possible reason for this is the improved level of bed bug awareness of New Yorkers. Another could be an increase in skills and professionalism of the pest management industry with bed bug management. NYS IPM staff members have been involved in the training of pest management professionals and raising awareness of the general public since 1999. In 2014 the number of people reached through web-based resources was over 350,000 for bed bug materials alone. The Frequently Asked Questions document was single the most popular document on the NYS IPM website in 2013, with 466,490 total views. The publication titled “Guidelines for Prevention and Management of Bed Bugs...” was viewed more than 22,890 times and downloaded over 1900 times. All of these numbers were actually higher than in 2013. Additionally, our Bed Bugs Illustrated material is in use in the Long Beach (NY) Municipal Housing Authority and was featured on About.com:

<http://pestcontrol.about.com/od/diypestcontrolprevent/fl/Eliminate-Bed-Bugs-Step-by-Step.htm>

Future projects include the development of a compendium of instructions for removing bed bugs from household goods, a school bed bug information packet, and continued outreach as needed for New Yorkers battling bed bugs.

#### **Project locations:**

Outreach has been concentrated in Nassau, Suffolk and Westchester Counties but directly and indirectly reaches communities throughout New York State and the United States.

#### **Bed Bug Presentations in 2014**

<b>Date</b>	<b>Title and type of presentation</b>	<b>Location</b>	<b>Audience</b>	<b># of people</b>
1/15/14	Bed Bugs: Current Status and What Individuals can do to Management Them	Middletown, NY (Orange County)	Open to the public, pest management professionals	40
3/14/14	“Bed Bug Basics”	Yaphank, NY Suffolk County	Students taking the DEC 30-hour pesticide applicators course	34
3/19/14	Nassau County Bed Bug Task Force Bed Bug Workshop	Bethpage, NY (Nassau County)	Housing staff, administration, school personnel, community members, pest professionals	40
9/23/14	Nassau County Bed Bug Task Force; Nassau County Department of Social Services Bed Bug Workshop	Uniondale, NY (Nassau County)	Housing staff, administration, school personnel, community	45

			members, pest professionals	
9/24/14	Nassau County Bed Bug Task Force; Nassau County Department of Social Services Bed Bug Workshop	Uniondale, NY (Nassau County)	Housing staff, administration, school personnel, community members, pest professionals	84
9/30/14	In-service for LifeTime Care “Bed Bugs Suck”	Rochester/Monroe	Health care workers	50
10/14/14	Saratoga Housing Authority Bed Bug Workshop	Saratoga, NY (Saratoga County)		18
10/16/14	Nassau County Bed Bug Task Force; Nassau County Department of Social Services Bed Bug Workshop	Uniondale, NY (Nassau County)	Housing staff, administration, school personnel, community members, pest professionals	19
11/18/14	Nassau County Bed Bug Task Force; Nassau County Department of Social Services Bed Bug Workshop	Uniondale, NY (Nassau County)	Housing staff, administration, school personnel, community members, pest professionals	35
12/10/14	Nassau County Bed Bug Task Force; Nassau County Department of Social Services Bed Bug Workshop	Uniondale, NY (Nassau County)	Housing staff, administration, school personnel, community members, pest professionals	36

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